# **Black Box Testing**

The testing team analyzes the workings of an application without first having an extensive understanding of its internal structure and design. Black box testing mainly focuses on the comprehensive examination of application functionality. It primarily focuses on understanding user experience, the testers do not require in-depth technical knowledge to carry it out.

**Advantages of black box testing:**

* Tester can be non-technical.
* The tester can have detailed functional knowledge of the system without the need for the tester to have detailed functional system knowledge.
* Tests will be done from an end user's point of view because the end user should accept the system.
* Best for testing large applications.

**Disadvantages of black box testing:**

* Test cases are challenging to design without having clear functional specifications.
* It is difficult to identify tricky inputs if the test cases are not developed based on specifications.
* Black box testing doesn't provide a detailed explanation.

# **White Box Testing**

White Box Testing is a software testing method in which the internal structure or design along with the workings is known to the tester. In this testing technique, the software’s internal structure, design, and coding are tested to verify input-output flow and improve design, usability, and security.

**Advantages of white box testing:**

* It identifies errors in code and thus makes the debugging process easier.
* It helps in evaluating all the loops within the program.
* Tester can make the testing process more efficient with appropriate test cases.
* Code optimization by finding hidden errors.
* White box test cases can be easily automated.

**Disadvantages of white box testing:**

* White box testing can be quite complex and expensive.
* Developers who usually execute white box test cases detest it.
* It is not considered feasible for the testing of large applications.
* It is an exhaustive process and requires a highly skilled tester.

# **Grey Box Testing**

Gray box testing is a software testing technique to test a software product or application with partial knowledge of the internal structure of the application. The purpose of grey box testing is to search and identify the defects due to improper code structure or improper use of applications.

**Advantages of white box testing:**

* Grey box testers don't rely on the source code; instead, they rely on interface definition and functional specifications.
* A grey-box tester can design excellent test scenarios, especially around communication protocols and data type handling.
* The test is done from the point of view of the user and not the designer.
* Users and developers have clear goals while doing testing.

**Disadvantages of white box testing:**

* The ability to go over the code and test coverage is limited.
* The tests can be redundant if the software designer has already run a test case.
* Grey box testing is not suitable for algorithm testing.

# **Alpha Testing**

This is the initial phase of testing to verify whether the product is working as expected or not. This test is carried out by the internal staff.

**Advantages of Alpha testing:**

* You accomplish adequate and thorough testing.
* It helps to verify the product’s input and output flows, for all required and possible scenarios.
* It provides the opportunity to understand how the system will behave when it is released to the end users.
* It helps the team to identify possible production issues in advance.

**Disadvantages of Alpha testing:**

* This test execution might take a longer time to complete.
* It is difficult to test the entire product since it’s still in development phase
* This test doesn’t cover deep technical testing, it only covers business requirements.

# **Beta Testing**

Beta testing is the final round of testing before releasing a product to a wide audience. The objective is to uncover as many bugs or usability issues as possible in this controlled setting.

**Advantages of Beta testing:**

* It helps in analyzing customer feedback before the release of the product.
* It helps in improving the overall quality of the software as more bugs can be discovered
* It helps in reducing the risk of software failure by understanding the end user's point of view regarding the product and fixing it accordingly.

**Disadvantages of Beta testing:**

* It could be proven a failure in case of poor test management as it is performed outside the office premises
* It seems to be useless and a waste of time if the unstable or under-development product is released to the testing team.
* Receiving feedback from the end users and understanding their different points of view is very important. If no proper feedback is received and no improvements are done accordingly, it would be useless.
* It takes a lot of time which may cause a delay in the release of software and hence affects the project deadlines.

# **Monkey Testing**

# Monkey testing is a type of software testing where an application is tested by giving random inputs usually based on the tester’s mood and analyzing its behavior or checking if it breaks the application.

# **Advantages of Monkey testing:**

* Monkey testing is a very good approach to finding out some new bugs which may not be possible from the stated scenarios.
* Monkey testing can also be a good way to perform [stress testing](https://tryqa.com/what-is-stress-testing-in-software/) and [load testing](https://tryqa.com/what-is-load-testing-in-software/) since the scenarios tested are generally random and ad-hoc.
* It is very easy to execute because it just requires some random data to run against some random tests.
* Execution of test cases and setting up of environments expenses are very less in monkey testing.

**Disadvantages of Moneky testing:**

* The test carried out during monkey testing is so random that it is either not possible or very difficult to recreate any bug.
* It’s very difficult and time-consuming to analyze the unexpected issues found during the monkey testing.
* Testers have difficulty in defining the exact test scenarios and they also cannot assure the accuracy of test cases.
* Monkey testing may consume lots of time before finding a bug because it does not have any predefined tests.

## **Difference between Smart and the Brilliant Monkey Testing**

| **Monkey Testing** | **Brilliant Testing** |
| --- | --- |
| the tester knows the application and its workflow and tests the application with invalid inputs. | The tester will have domain knowledge about the application and can even identify some bugs that might be found in the future. |
| This method is in fact, useful for load/stress testing. | The tester knows about the product, they can perform testing from a user’s viewpoint. |

# **Gorilla Testing**

# Gorilla Testing is a software testing approach in which a program module is checked regularly to verify that it is operating properly so that there are no bugs in that module.

**Advantages of Gorilla testing:**

* it can also be very time-consuming and expensive.
* Since gorilla testing is mostly exploratory in nature, it can often result in incomplete test coverage.
* Gorilla testing is not suitable for large applications as it would take too much time to test all areas of the application.

## **Difference between Monkey Testing & Gorilla Testing**

| **Monkey Testing** | **Gorilla Testing** |
| --- | --- |
| Monkey Testing is done at irregular intervals, with no prepared test scenarios. | It is neither predetermined nor arbitrary. |
| Monkey testing is conducted on the complete system and may include several test scenarios. | Gorilla Testing is done on a small number of modules with a small number of test cases. |
| The goal of Monkey Testing is to look for system crashes. | The goal of Gorilla testing is to determine whether or not the module is operating correctly. |